

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 77 WEST JACKSON BOULEVARD CHICAGO, IL 60604-3590

SEP 1 0 2012

CERTIFIED MAIL 7009 1680 0000 7677 9869 RETURN RECEIPT REQUESTED

REPLY TO THE ATTENTION OF:

Mr. David Lusk President, Michigan Disposal, Inc. EQ – The Environmental Quality Company 36255 Michigan Avenue Wayne, Michigan 48184

Re: Notice of Intent to File Civil Administrative Complaint Against Michigan Disposal, Inc. and EQ: The Environmental Quality Company doing business as Michigan Disposal

Waste Treatment Plant

EPA ID No.: MID000724831

Dear Mr. Lusk:

The U.S. Environmental Protection Agency plans to file an administrative complaint for civil penalties against EQ: The Environmental Quality Company (EQ) and Michigan Disposal, Inc (MDI) doing business as Michigan Disposal Waste Treatment Plant ("MDWTP," "you," or "facility"). We will allege that you violated the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901 - 6992k, as determined from the inspection conducted by representatives of EPA from June 10 through June 19, 2008 and subsequent investigations. RCRA is a cradle-to-grave framework to ensure proper management of hazardous wastes which, if handled in an unsafe manner, could present risks to human health and the environment. In addition, this letter informs you that EPA deems that your facility was a Significant Non-Complier under RCRA.

Based on information currently available to us, we plan to propose a penalty of \$460,300 in the complaint. The penalty has been calculated to reflect the following alleged violations: the failure to meet land disposal restriction requirements for treated batches of hazardous waste, and the failure to manage incoming leachate according to the facility's hazardous waste permit. This letter is not a demand to pay a penalty. We will not ask you to pay a penalty until we file the complaint or a final order. Before filing the complaint, we are giving you the opportunity to present any information that you believe we should consider. Relevant information might include evidence that you did not violate the law; evidence that you relied on compliance assistance from EPA or a state agency; evidence that we identified the wrong party; or financial data bearing on your ability to pay a penalty. You do not have to submit information already submitted, including but not limited to your letter to EPA dated August 19, 2011.

If you believe that you will be unable to pay a \$460,300 penalty because of financial reasons, please send us information to justify your claim, which may consist of certified, complete financial statements including balance sheets, income statements and all notes to the financial

statements, and your company's signed income tax returns with all schedules and amendments, for the past three years.

You may assert a claim of business confidentiality under 40 C.F.R. part 2, subpart B, for any portion of the information you submit to us. Information subject to a business confidentiality claim is available to the public only to the extent allowed by 40 C.F.R. part 2, subpart B. If you fail to assert a business confidentiality claim, EPA may make all submitted information available, without further notice, to any member of the public who requests it.

Within 14 calendar days after you receive this letter, please send any written response to:

Brenda Whitney
Environmental Engineer (LR-8J)
United States Environmental Protection Agency
77 West Jackson Boulevard
Chicago, Illinois 60604

If you want to confer with us, you should contact Ms. Whitney of the RCRA Branch in writing within 14 calendar days after you receive this letter. Please be advised that this conference is not a settlement negotiation covered by Federal Rule of Evidence 408; we may use any information you submit in support of an administrative, civil or criminal action. After the conference (or after you have submitted a written reply if we do not have a conference), we may give you the opportunity to engage in settlement negotiations before we file the complaint. If pre-filing settlement negotiations commence and are successful, a settlement agreement can be filed under EPA regulations at 40 C.F.R. § 22.13(b).

If you do not respond to this letter, EPA may file a complaint without further notice against you as authorized under section 3008(a) of RCRA, 42 U.S.C. § 6928(a). If you have questions of a legal nature, please telephone Richard J. Clarizio, Associate Regional Counsel, at (312) 886-0559.

Thank you for your prompt attention to this matter.

Sincerely,

Gary Victorine, Chief

RCRA Branch

cc: John Craig, MDEQ (craigi@michigan.gov)

Jeffery Woolstrum Honigman Miller Schwartz and Cohn LLP 2290 First National Building 660 Woodward Avenue Detroit, Michigan 48226-3506 Bec: Richard J. Clarizio, ORC (clarizio.richard@epa.gov)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 77 WEST JACKSON BOULEVARD CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

CERTIFIED MAIL RETURN RECEIPT REQUESTED

David Lusk, President and CEO EQ: the Environmental Quality Company 49350 North I-94 Service Drive Belleville, Michigan 48111

Re: Notice of Intent to File Civil Administrative Complaint Against EQ: the

Environmental Quality Company and Wayne Disposal, Inc.

Dear Mr. Lusk:

The U.S. Environmental Protection Agency plans to file an administrative complaint for civil penalties against EQ: The Environmental Quality Company and Wayne Disposal, Inc. (you). We will allege that you violated the Clean Air Act (Act), 42 U.S.C. § 7411(d), and the Title V Permit Program requirements of the Act found at U.S.C. § 7662c. The violations were identified in EPA's August 3, 2011, Findings of Violation (FOV). See Enclosure 1. EPA has also identified the specific instances when the thermocouples, pressure data loggers and temperature data loggers for the passive vent flares failed. See Enclosure 2. After reviewing your November 16, 2011, response to the FOV and your April 30, 2012, proposed action plan and based on information currently available to us, we plan to propose a penalty of \$167,831 in the complaint.

On June 7, 2012, we approved your April 30, 2012, plan to resolve the passive vent flare violations by discontinuing specific monitoring as needed to carry out a root cause analysis for a period of time that does not extend past December 31, 2012. Based on what you learn from the root cause analysis, we look forward to finalizing a plan and schedule that resolves the compliance issues.

This letter is not a demand to pay a penalty. We will not ask you to pay a penalty until we file the complaint or a final order. Before filing the complaint, we are giving you the opportunity to present any information that you believe we should consider. You do not have to resubmit the information you have already supplied, including but not limited to your November 16, 2011, letter. Relevant information might include evidence that you did not violate the law; evidence that you relied on compliance assistance from EPA or a state agency; evidence that we identified the wrong party; or financial data bearing on your ability to pay a penalty.

If you believe that you will be unable to pay the \$167,831 penalty because of financial reasons, please send us certified, complete financial statements including balance sheets, income

statements and all notes to the financial statements, and your company's signed income tax returns with all schedules and amendments, for the past three years.

You may assert a claim of business confidentiality under 40 C.F.R. Part 2, Subpart B, for any portion of the information you submit to us. Information subject to a business confidentiality claim is available to the public only to the extent allowed by 40 C.F.R. Part 2, Subpart B. If you fail to assert a business confidentiality claim, EPA may make all submitted information available, without further notice, to any member of the public who requests it.

We may use any information you submit in support of an administrative, civil, or criminal action.

Within 10 calendar days after you receive this letter, please send your response to:

Richard Clarizio
Office of Regional Counsel (C-14J)
U.S. Environmental Protection Agency
Region 5
77 W. Jackson Boulevard
Chicago, Illinois 60604

We plan to file the complaint against you 14 calendar days after you receive this letter, unless you give us information that the complaint is not substantially justified. Alternatively, we are willing to negotiate a consent agreement and final order resolving both the penalty and injunctive relief prior to issuance of a complaint. If you would like to enter into such negotiations then we will expect to receive within the 14 day time period a settlement offer with a specific penalty counteroffer and proposed outline for the injunctive relief.

If you have any questions, please telephone Richard Clarizio, Associate Regional Counsel, at (312) 886-0559.

Thank you for your prompt attention to this matter.

Sincerely,

Nidhi K. O'Meara Acting Chief

Air Enforcement and Compliance Assurance Branch

Enclosures (2)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 77 WEST JACKSON BOULEVARD CHICAGO, IL 60604-3590

AUG 0 3 2011

REPLY TO THE ATTENTION OF:

CERTIFIED MAIL RETURN RECEIPT REQUESTED

David Lusk, President Michigan Disposal and Wayne Disposal EQ - The Environmental Quality Company 36255 Michigan Avenue Wayne, Michigan 48184

Re: Finding of Violation

Michigan Disposal/Wayne Disposal

Belleville, Michigan

Dear Mr. Lusk:

The U.S. Environmental Protection Agency is issuing the enclosed Finding of Violation (FOV) to EQ – The Environmental Quality Company (you). We find that you are violating the Federal Plan for municipal solid waste landfills, the underlying New Source Performance Standards, and your Title V renewable operating permit at your Belleville, Michigan facility.

EPA is issuing this FOV in accordance with Section 113(a)(3) of the Act, 42 U.S.C. §7413(a)(3), for violating the Section 111(e) of the Act 42 U.S.C. § 7411(e); the Standards of Performance for Municipal Solid Waste Landfills at 40 C.F.R. Part 60, Subpart WWW, the requirements for Federal Plan for Municipal Solid Waste Landfills, 42 U.S.C. § 7411(d) and 40 C.F.R. Part 62, Subpart GGG, and the Title V Permit Program requirements of the Act, 42 U.S.C. § 7661-7661f, 40 C.F.R. Part 70.

We have several enforcement options under Section 113(a)(3) of the CAA, 42 U.S.C. § 7413(a)(3). These options include issuing an administrative compliance order, issuing an administrative penalty order and bringing a judicial civil or criminal action.

We are offering you an opportunity to confer with us about the violations alleged in the FOV. The conference will give you the opportunity to present information on the alleged violations, the efforts you have taken to comply, and the steps you will take to prevent future violations.

Please plan for your facility's technical and management personnel to attend the conference to discuss compliance measures and commitments. You may have an attorney represent you at this conference. EPA hopes that this FOV will encourage you to achieve and maintain compliance

with the requirements of the Act. The EPA contact in this matter is Jeffrey Gahris. You may call him at (312) 886-6794 to request a conference. You should make the request within 10 calendar days following receipt of this letter. We should hold any conference within 30 calendar days following receipt of this letter.

Sincerely,

Cheryl L. Newton

Director

Air and Radiation Division

Enclosure

cc: Thomas Hess, Enforcement Unit Supervisor

Air Quality Division

Michigan Department of Environmental Quality

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 5

IN THE MATTER OF:)	·
)	
EQ: The Environmental Quality Company)	FINDING OF VIOLATION
and Wayne Disposal, Inc.)	
Belleville, Michigan)	
)	EPA-5-11-MI-09
Proceedings Pursuant to)	÷
the Clean Air Act,	ĵ	• •
42 U.S.C. §§ 7401 et seq.)	
)	

FINDING OF VIOLATION

The U.S. Environmental Protection Agency finds that EQ: The Environmental Quality Company and its subsidiary Wayne Disposal, Inc. (hereinafter referred to as "EQ"), are violating the Clean Air Act (Act). Specifically, EQ is violating the Federal Plan for Municipal Solid Waste Landfills, 42 U.S.C. § 7411(d), and the Title V Permit Program requirements of the Act at U.S.C. § 7662c, and the implementing regulations at 40 C.F.R. Part 70 as follows:

REGULATORY AUTHORITY

- 1. Federal Plan Requirements for Municipal Solid Waste Landfills (Federal Plan), codified at 40 C.F.R. Part 62, Subpart GGG, applies to "existing" municipal solid waste (MSW) landfills that have begun construction, modification or reconstruction before May 30, 1991, and have not been modified or reconstructed since that date.
 - 2. The Federal Plan has been in effect in Michigan since January 7, 2000.
- 3. The Federal Plan requires the owner and operator of an affected MSW landfill to operate a gas collection and control system. The Federal Plan incorporates by reference the New Source Performance Standards (NSPS) for MSW landfills at 40 C.F.R. Part 60, Subpart WWW.
- 4. The Federal Plan requires owners and operators of existing MSW landfills to submit to EPA for approval a Final Control Plan (FCP).
- 5. The NSPS at 40 C.F.R. §§ 60.18(e) and 40 C.F.R. 60.752(b)(2)(iii)(A) require that flares used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.
- 6. The NSPS at 40 C.F.R. §§ 60.18(d) and 60.756(c) require that owners or operators of open flares used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.

- 7. The NSPS at 40 C.F.R. § 60.11(d) requires at all times, including start-up, shutdown, and malfunction, that owners and operators, to the extent practicable, maintain and operate any facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.
- 8. The NSPS at § 40 C.F.R. 60.755(d) requires the use of a portable organic vapor analyzer to measure the surface concentrations of landfill gases according to EPA method 21 to comply with the surface monitoring provisions found at § 60.755(c).
- 9. EPA granted full approval of Michigan's Title V renewable operating permit program on December 4, 2001. The program became effective on November 30, 2001. Michigan Department of Environmental Quality (MDEQ) implements the program.
- 10. Section 113(a)(3) of the CAA, 42 U.S.C. § 7413(a)(3), authorizes the Administrator to initiate an enforcement action whenever, among other things, the Administrator finds that any person has violated or is in violation of a requirement or prohibition of Title V of the CAA, or any rule promulgated, issued or approved under Title V of the CAA.

DESCRIPTION OF EQ FACILITIES

- 11. EQ owns and operates an inactive MSW landfill at 49350 North I-94 Service Drive, Belleville, Michigan. This landfill consists of sections known as Fons, Old Wayne, Wayne Site No. 1, and Wayne Site No. 2.
- 12. The MSW landfill is subject to requirements at 40 C.F.R. Part 62, Subpart GGG. This is an existing landfill that contains MSW, which received waste from about 1960 until 1985.
- 13. EQ submitted a FCP to meet Federal Plan requirements. EPA approved the FCP on April 26, 2004.
- 14. As required by the FCP, EQ installed solar-powered passive flares at Fons, Old Wayne and Wayne Site #1 in 2004. These open flares are used to control landfill gas emissions from the passive landfill vents.
- 15. On December 4, 2003, MDEQ issued a Renewable Operating Permit that covers the operation of open flares at Wayne Site No. 1. MDEQ issued Title V permit number MI-PTI-M4782-2003a to EQ: The Environmental Quality Company (Michigan Disposal Waste Treatment Plant), Wayne Disposal, Inc., and Wayne Energy Recovery, Inc., as a revision to the previously-issued Renewable Operating Permit, on December 15, 2006. This permit required that EQ operate passive flares designed in accordance with 40 C.F.R. § 60.18 and the EPA-approved FCP.
 - 16. The revised permit contained the following conditions:
 - a. Section 3, "EUVENTFLARE" VI.1, which states "The presence of a flame shall be monitored and recorded continuously using a thermocouple or any other equivalent device to detect the presence of a flame."

- b. Section 3, "EUVENTFLARE" VI.2, which states "The permittee shall keep continuous records of the flame or flame flare monitoring specified under 40 CFR section and record all periods."
- c. Section 3, "EUVENTFLARE" VI.3, which states "If the permittee uses an open flare, records shall ...(keep) continuous records of the flare pilot flame or flare flame monitoring and records of all periods of operations during which the pilot flare flame is absent.
- d. Section 3, TABLE C-3.1, which states "Surface emissions monitoring shall be performed in accordance with section 4.3.1 of Method 21 of Appendix A of 40 C.F.R Part 60..."
- 17. MDEQ renewed the Renewable Operating Permit under number MI-PTI-M4782-2010, becoming effective on September 1, 2010, and expiring September 1, 2015.
- 18. Section 3 of EQ's Title V permit effective on September 1, 2010, continues to require that EQ operate the vent flares in compliance with the provisions of 40 C.F.R. Part 60, Subpart A, whenever landfill gas emissions may be vented to them.

FINDING OF VIOLATION

- 19. On numerous occasions from January 2007 through December 2010, EQ failed to properly maintain thermocouples, pressure data loggers, and temperature data loggers for the passive vent flares. In so doing, EQ violated the Federal Plan and the NSPS general provisions and the NSPS for MSW landfills by failing to operate the passive vent flares in compliance with the provisions of 40 C.F.R. Part 60, Subpart A, whenever landfill gas emissions may be vented to them. 40 C.F.R. §§ 60.18(e) and 60.752(b)(2)(iii)(A).
- 20. On numerous occasions from January 2007 through December 2010, EQ violated the Federal Plan and the NSPS general provisions by failing to maintain and operate any facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Specifically, EQ allowed ongoing failures of pressure dataloggers, temperature dataloggers and thermocouples during this period. 40 C.F.R. § 60.11.
- 21. On numerous occasions from January 2007 through December 2010, EQ violated the Federal Plan and the NSPS general provisions and the NSPS for MSW landfills by failing to monitor the flares to ensure that they are operated and maintained in conformance with their designs. 40 C.F.R. §§ 60.18(d) and 60.756(c).
- 22. During an inspection on June 17, 2008, EPA found that the calibration gas used by EQ for surface monitoring had expired as of October 10, 2007, in violation of the procedures contained at 40 C.F.R. § 60.755(d) that reference Method 21.

- 23. EQ's failure to properly maintain thermocouples, pressure data loggers, and temperature data loggers for the passive vent flares in violation of Federal Plan requirements and the NSPS general provisions and the NSPS for MSW landfills are also in violation of Section 3 of the Renewable Operating Permit.
- 24. Additionally, EQ's violation of the procedures contained at 40 C.F.R. § 60.755(d) are in violation of Section 3 of the Renewable Operating Permit. EQ's operation in violation of its Title V permit constitutes a violation of Section 502 of the CAA and of 40 C.F.R. § 70.7(b).

ENFORCEMENT AUTHORITY

25. Section 113(a)(3) of the Act, 42 U.S.C. §7413(a)(3), provides that whenever, on the basis of any information available to the Administrator, the Administrator finds that any person has violated, or is in violation of, any requirement or prohibition of, *inter alia*, any rule promulgated under NSPS requirements of Section 112(d), 42 U.S.C. § 7412(d), Title V of the Act, 42 U.S.C. §§ 7661-7661f, or any rule or permit issued thereunder, the Administrator may issue an administrative penalty order under Section 113(d), issue an order requiring compliance with such requirement or prohibition, or bring a civil action pursuant to Section 113(b) for injunctive relief and/or civil penalties.

8/3/11	Auth Symumy fr
Date	Cheryl L. Newton
	Director

CERTIFICATE OF MAILING

I, Tracy Jamison, certify that I sent a Finding of Violation, No. EPA-5-11-MI-09, by Certified Mail, Return Receipt Requested, to:

David Lusk, President EQ: The Environmental Quality Company 36255 Michigan Avenue Wayne, Michigan 48184

I also certify that I sent copies of the Finding of Violation by first-class mail to:

Melinda Keillor, Environmental Manager EQ: The Environmental Quality Company 49350 North I-94 Service Drive Belleville, Michigan 48111

and

Thomas Hess, Supervisor
Enforcement Unit
Air Quality Division
Michigan Department of Environmental Quality
525 West Allegan Street
P.O. Box 30473
Lansing, Michigan 48909-7973

On the 3 day of August

2011

Tracy Jabanson

Office Automation Clerk

AECAB, PAS

CERTIFIED MAIL RECEIPT NUMBER:

7009 1680 0000 7672 7631

Enclosure 2

EQ – The Environmental Quality Company and Wayne Disposal Inc.

Summary of Reported Passive Vent Flare Malfunctions

Lasting More than Specified Time Periods

Emission Gui	delines Sen	ni-Annual I	Report Jul	v-Dec 2010:
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Flare	Date	Duration (Hours)	Explanation provided by WDI
F-5	9/7/10	560	Pressure data logger failed
F-6	7/2/10	700	Pressure data logger failed
F-6	9/7/10	560	Pressure data logger failed
F-6	11/1/10	210	Pressure data logger failed
F-7	7/2/10	700	Pressure data logger failed
OW-1	7/2/10	710	Temperature data logger failed
OW-1	8/1/10	250	Temperature data logger failed
OW-1	11/2/10	160	Temperature data logger failed
OW-1	8/19/10	300	Pressure data logger failed
OW-6	8/3/10	200	Temperature data logger failed
S1-2	12/16/10	370	Pressure data logger failed
S1-5	11/12/10	440	Temperature data logger failed
S1-5	12/1/10	370	Temperature data logger failed

Emission Guidelines Semi-Annual Report July-Dec 2009:

Date	Duration (Hours)	Explanation provided by WDI
9/04/09	283	Pressure data logger failed
10/11/09	610	Temperature data logger failed
10/01/09	864	Pressure data logger failed
8/16/09	216	Thermocouple went bad
10/16/09	500	Pressure data logger failed
12/02/09	760	Replaced vent flare ignition system
7/01/09	300	Pressure data logger failed
10/08/09	576	Thermocouple went bad
11/05/09	1319	Pressure data logger failed
7/17/09	1080	Temperature data logger failed
10/01/09	144	Thermocouple went bad
10/19/01	380	Pressure data logger failed
12/14/09	350	Pressure data logger failed
7/1/09	303.9	Pressure data logger failed
7/13/09	1104	Thermocouple went bad
7/14/09	432	Thermocouple went bad
10/10/09	606	Temperature data logger failed
12/18/09	288	Pressure data logger failed
11/16/09	357.7	Thermocouple went bad
	9/04/09 10/11/09 10/01/09 8/16/09 10/16/09 12/02/09 7/01/09 10/08/09 11/05/09 7/17/09 10/01/09 10/19/01 12/14/09 7/13/09 7/13/09 10/10/09 12/18/09	(Hours) 9/04/09 283 10/11/09 610 10/01/09 864 8/16/09 216 10/16/09 500 12/02/09 760 7/01/09 300 10/08/09 576 11/05/09 1319 7/17/09 1080 10/01/09 144 10/19/01 380 12/14/09 350 7/13/09 1104 7/14/09 432 10/10/09 606 12/18/09 288

OW-6	7/5/09	1680	Thermocouple went bad
OW-6	12/12/09	360	Thermocouple went bad
S1-2	10/15/09	500	Temperature data logger failed
S1-04	10/01/09	864	Temperature data logger failed
S1-4	12/05/09	144.9	Pressure data logger failed
S1-1C	7/16/09	1440	Temperature data logger failed
S1-1C	10/01/09	345	Pressure data logger failed
S1-1W	7/01/09	720	Thermocouple went bad
S1-1W	8/01/09	160	Temperature data logger failed
S1-1W	11/15/09	780	Thermocouple went bad
S1-5A	7/19/09	360	Thermocouple went bad
S1-5A	12/10/09	184.9	Pressure data logger failed
S1-5B	8/04/09	360	Temperature data logger failed
S1-5B	10/03/09	394	Pressure data logger failed

2008 Annual Compliance Certification (with corrections):

Flare	Date	Duration (Hours)	Explanation provided by WDI
F-1	1/28/08	744	Missing pressure
F-1 F-4 OW-1 OW-4 OW-5 OW-6 31-3 S1-3 S1-4 S1-4 S1-1E S1-1E	4/30/08 1/27/08 3/20/08 4/22/08 1/1/08 2/1/08 1/1/08 1/21/08 3/23/08 10/1/08 2/24/08 5/30/08 9/20/08	1032 768 816 1008 744 1080 4344 864 2184 720 730 1368 744 986	Missing pressure Missing pressure Missing pressure Missing temperature Missing temperature Missing pressure Missing pressure Data logger failed Missing pressure Missing temperature Data logger failed Missing temperature Data logger failed Missing temperature Missing temperature Data logger failed
S1-1W S1-5A	9/23/08 9/23/08 11/23/08	744 720	Solar spark pilot failed Data logger failed

2007 Annual Compliance Certifications:

Flare	Date	Duration (hours)	Explanation provided by WDI
F-7	12/4/07	744	Thermocouple went bad
OW-6	11/16/07	1104	Condensate in tubing (no pressure readings)
S1-1E	11/1/07	1176	Condensate in tubing (no pressure readings)
S1-3	10/1/07	720	Data logger locked up

31-3	11/3/07	1080	Condensate in tubing (no pressure readings)
S1-5A	11/1/07	1440	Data logger locked up
S1-5B	11/5/07	1057.4	Data logger locked up

Explanation:

Many of the malfunctions documented above are those exceeding 30 days, so they represent time periods exceeding the time period calculated to be 30 days x 24 hours/day = 720 hours. These are malfunctions that are potentially exceeded the interval between monthly inspections by the service technician.

Malfunctions identified for 2008 and 2009 are all those which exceeded 5 days (5 \times 24 = 120 hours). For previous years, only the longer periods (720 hours or more) are tabulated due to the large number of periods.

Key for flare identifications:

F-Fons OW-Old Wayne S1-Wayne Site #1